

*Handwritten initials: JMW, A.F., and a dollar sign.*

**UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: WEST

Group Art Unit: 3752

Serial No.: 10/055,085

Examiner: Robin Octavia Evans

Filed: January 25, 2002

For: **APPARATUS FOR APPLYING FOAM MATERIAL TO A SUBSTRATE**

Attorney Docket No.: XEEE 2 13215

Board of Patent Appeals and Interferences  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**TRANSMITTAL OF BRIEF OF APPELLANT**

Dear Sir:

In connection with the above-entitled case, enclosed is an APPEAL BRIEF, in triplicate, together with a check in the amount of \$250 to cover the appeal brief filing fee for a small entity.

The Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to Deposit Account No. 06-0308.

Respectfully submitted,

FAY, SHARPE, FAGAN,  
MINNICH & McKEE, LLP

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**CERTIFICATE OF MAILING**

I hereby certify that this **TRANSMITTAL OF BRIEF OF APPELLANT** is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Board of Patent Appeals and Interferences, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on January 18, 2005.

By: Nancy M. Grams  
Nancy M. Grams

Serial No. 10/055,085

Docket No. XEEE 2 13215

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : West  
For : Apparatus for Applying  
Foam Material to a Substrate  
Serial No. : 10/055,085  
Filing Date : January 25, 2002  
Appeal No. : \_\_\_\_\_  
Gr. Art Unit : 3752  
Examiner : Robin Octavia Evans  
Our Docket : XEEE 2 13215  
Cleveland, Ohio 44114

**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

This is an appeal from the decision of the examiner dated September 9, 2004 finally rejecting claims 1-29 in the above-identified patent application. No claims are allowed.

**Real Party and Interest**

The inventor, Richard A. West, is the real party and interest.

**Related Appeals and Interferences**

There are no related appeals and interferences.

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Nancy M. Grams  
(SIGNATURE)  
Nancy M. Grams

**Status of the Claims**

This application contains claims 1-29. A copy of these claims appears in the Appendix of Claims attached hereto.

**Status of Amendments**

On November 1, 2004, appellant filed a Request for Reconsideration including appellant's Declaration Pursuant to 37 CFR § 1.132. By an Advisory Action dated December 1, 2004, appellant was advised that the Affidavit and Request for Reconsideration were considered by the examiner.

**Summary of the Invention**

Referring to Figures 1-3 of the drawing and the specification at page 6, lines 8-19, and Figures 6-9 of the drawing, appellant's apparatus comprises depositing means in the form of a dispenser support and drive assembly 12 for depositing a layer of foamed plastic material PM on an underlying roof surface S along a path P having a direction A and having a beginning end P1 and an ending end P2. The apparatus further includes support means in the form of a frame 10 having wheels 14 and 16 for supporting the dispenser support and drive assembly 12 for movement on underlying surface S along path P. The apparatus also includes moving means comprising a motor and gear reduction unit 26 which includes a variable speed electric motor 30 and which moving means is for moving the frame 10 and dispenser support and drive assembly 12 along path P.

Referring to Figures 1-3 and the specification at page 6, line 20 to page 8, line 4, dispenser support and drive assembly 12 includes a carriage 40 reciprocable in opposite directions transverse to direction A of the path. The carriage is driven along track members 42 by a threaded drive shaft 48 which is rotated by a carriage drive motor 50. The carriage carries a dispenser gun 62 having an outlet nozzle 64 by which foamed plastic material is discharged onto surface S. Referring to Figures

1, 4 and 5 and the specification at page 8, lines 5-20, control means 100 is provided for controlling, *inter alia*, drive motors 30 and 50. Referring to the specification at page 1, lines 8-16, the apparatus thus far described is known in the prior art.

With reference to Figures 4 and 5 of the drawing and the specification at page 8, line 21 to page 10, line 18, and Figures 6-9 of the drawing and the specification at page 10, lines 13-18, the present invention provides an improvement in control means 100 comprising a programmable controller PC for controlling drive motor 30 and thus the moving means for varying the rate of movement of the frame 10 and dispenser support and drive assembly 12 along path P for a layer of foamed plastic material PM deposited on underlying surface S to slope uniformly relative thereto along at least a portion of path P between the beginning end P1 and the ending end P2 thereof. As shown in Figures 6-9, the deposited layer of foamed plastic material has a starting end E1 and a stopping end E2.

Controller PC is programmable and operable as set forth in detail from page 10, line 18 of the specification to page 12, line 20 thereof, to control the movement of the apparatus for the apparatus to deposit a layer of foamed plastic material PM having the profile shown in Figure 6 of the drawing. In part in this respect, controller PC is programmable with respect to setting the base speed for depositing a minimum thickness at starting end E1, the length of the run from end E1 to end E2 and the maximum thickness at end E2. As further examples shown in Figures 7-9, respectively, the controller is programmable for the deposited layer to incline upwardly from starting end E1 to an intermediate point L and then to incline downwardly from the latter point to end E2, to incline downwardly from end E1 to intermediate point L and to then incline upwardly to end E2,

and to incline upwardly from end E1 to intermediate point L and to be of uniform thickness from the latter point to end E2.

As set forth in the specification at page 2, lines 11-23 and in paragraph 9 of appellant's Declaration filed November 1, 2004, prior to appellant's invention, the only way to provide a flat roof surface with a sloping contour was to attach manufactured, tapered insulation boards to the roof surface and then cover the boards with a waterproofing membrane. This process is labor intensive and expensive. The alternative provided in accordance with patent 6,024,147 to Hunter, Jr., cited by appellant, is a terraced contour of adjacent flat surfaces of different thicknesses. This is also a time consuming and thus expensive process and creates the potential for the undesired standing or ponding of water on the flat surfaces.

As set forth in the specification at page 3, lines 10-21 and in paragraph 10 of appellant's Declaration, appellant's invention advantageously enables providing a flat roof surface with a sloping profile more efficiently and less expensively than heretofore possible, while providing the advantages of a sloping surface including constant runoff of water, elimination or reduction of ponding, and avoiding the accumulation of contaminants. Furthermore, a roof laid in accordance with invention promotes roof life by avoiding added weight thereon, stress resulting from freezing and thawing cycles, and the adverse effects of water on the adhesion of protective coatings applied thereto.

**Prior Art Relied Upon**

U.S. Patent 6,126,766 (Hunter, Jr.) issued October 3, 2000 - entitled Method of Applying a Spray-Applied Foam to Roofing and Other Surfaces, Class 156, Subclass 78.

**Disclosure of Prior Art Reference**

The patent to Hunter is a division of patent 6,024,147 to Hunter which is identified and discussed in appellant's specification at page 1, lines 8-16, and page 2 of the specification, lines 17-23. With reference to Figure 1 of the cited patent, the apparatus for depositing a layer of foamed plastic material on an underlying surface comprises a wheeled frame moveable along a path in the direction of arrow 33, and a rail assembly 23 which supports a spray nozzle 62 for displacement in opposite directions, as indicated by arrow 32, traverse to the path of movement of the vehicle 1 and as the vehicle moves along the latter path. For any given path of movement of the vehicle, the speed thereof is constant, whereby the deposited material is in a layer of uniform thickness along the path of movement and between the beginning and ending ends of the path. The ground speed of the vehicle can be adjusted with respect to successive passes to provide a terraced or step profile as shown in Figure 6 of the drawing and described in the specification at column 3, lines 63-67 and column 6, line 64 to column 7; line 10.

**The Issue:****Whether Claims 1-29 are Anticipated by Hunter, Jr. '766 under 35 U.S.C. § 102(b)****Grouping of Claims**

Appellant considers claims 3, 8 and 14 to be separately patentable from claim 1 from which they depend. Further, appellant considers claim 18 to be separately patentable from claim 15 from which it depends.

**The Issue:**

It is Appellant's contention that each of the independent claims 1 and 15 patentably distinguish under 35 U.S.C. § 102(b) from Hunter, Jr. '766.

Appellant's invention as defined in each of the independent claims 1 and 15 relates to depositing a layer of foamed plastic material on an underlying surface and along a path having a beginning end and an ending end. In apparatus claim 1, the rate of movement of the foam depositing means is controlled for a layer of foamed plastic material deposited on the underlying surface "to slope uniformly relative thereto along at least a portion of said path between said beginning end and said ending end." (Emphasis added). In method claim 15, the depositing of the foamed material is controlled for the deposited material "to slope uniformly relative to said surface along at least a portion of said path between said beginning end and said ending end." (Emphasis added). It is respectfully submitted that Hunter, Jr. '766 does not disclose either apparatus or a method for depositing material in the manner defined in claims 1 and 15, namely for the deposited material to slope uniformly along at least a portion of the path and in the direction between the beginning end and the ending end of the path.

As is clear from the disclosure of Hunter, Jr. '766 and paragraphs 4, 5 and 6 of appellant's Declaration filed November 1, 2004, the Hunter, Jr. apparatus moves along a path on an underlying roof surface at a ground speed which is constant between the beginning and ending ends of the path, whereby a layer of foamed plastic material of uniform thickness is deposited along the entire path. When it is desired to provide a slope on a flat roof, as shown in Figure 6 of Hunter, Jr. '766, the apparatus is shifted laterally in Figure 6, transverse to the path of movement of the apparatus, and the ground speed of the foam applicator is reduced on each successive pass away from and parallel to drain 96.

In paragraph 3 of the final rejection, the examiner asserts that Hunter, Jr. '766 discloses in column 5, lines 21-26, that the amount of product sprayed on the underlying surface for unit of



sprayed area is set by selecting the ground speed of the vehicle. While this is true, it is without question that each run of the apparatus is at a constant ground speed, whereby the material deposited along the path of movement of the apparatus between the beginning and ending ends of each run is of uniform thickness along the entire path and does not slope at all in the direction of the run and between the beginning and ending ends thereof.

The examiner further asserts in paragraph 3 of the final rejection, with reference to the limitation in appellant's claims 1 and 15 that the material is deposited on the underlying surface to slope uniformly relative to the surface along at least a portion of the path, that the Abstract of Hunter, Jr. '766 discloses a method for uniformly applying coatings at appropriate thickness and pitch upon a surface. It is respectfully submitted that this portion of the Abstract of Hunter, Jr. '766 is inappropriately taken out of context with the Abstract in its entirety and, moreover, has nothing to do whatsoever with the deposited material sloping uniformly relative to the underlying surface along a portion of the path between the beginning and ending ends thereof. Rather, the Abstract relates to the traveling disposition of the spray nozzle transverse to the direction of the path of movement of the apparatus and to the movement of the spray nozzle at each of the opposite ends of the transverse movement thereof to control the thickness of the foam at the latter ends.

Still further, the examiner asserts in paragraph 3, with respect to Figure 6 of Hunter, Jr. '766, that the latter shows the speed of the vehicle decreasing "...as it travels from point A to point E as described in column 7, lines 1-10. Since the vehicle does sweep back and forth with the boom changing directions and the flow rate remaining constant, the speed of the vehicle would inherently have to increase to obtain the same spray pattern on the subsequent sweep." To begin with, it is respectfully submitted that Hunter, Jr. '766 does not disclose that the vehicle moves along a path in

the direction from point A to point E in Figure 6. Rather, as stated by Hunter, Jr. '766 in column 3 of the specification, lines 63-67, in column 7 of the specification, lines 3-10, and in paragraph 5 of appellant's Declaration filed November 1, 2004, the Hunter, Jr. apparatus moves along each of the paths A-E perpendicular to the plane of the sheet on which Figure 6 appears, and the apparatus moves along each of the paths from its beginning end to its ending end at a constant speed. The speed is decreased for each of the paths B, C, D, and E relative to the speed along path A. Therefore, Hunter, Jr. '766 does not disclose the depositing of material such that the material slopes in the direction between the beginning and ending end of the path of movement of the apparatus, as is required in appellant's claims 1 and 15.

Importantly, even if it were to be considered that Hunter, Jr. '766 discloses the path of movement of his apparatus to be in the direction from point A to point E, it is respectfully submitted that each of the layers A-E would, in and of itself, represent a path of movement having a beginning end and an ending end. In this respect, layer A would be laid along a path having a beginning end adjacent drain 96 and an ending end adjacent the beginning end of layer B, and layer B would have an ending end adjacent the beginning end of layer C, and so forth. In accordance with the disclosure of Hunter, Jr. '766, the apparatus would move at a constant speed from the beginning end to the ending end of the path for laying layer A. The ground speed of the apparatus would then be adjusted to deposit the thickness of layer B and the apparatus would move at a constant speed from the beginning end to the ending end of the path for depositing layer B. Therefore, such movement of the apparatus of Hunter, Jr. '766, in accordance with the disclosure of the latter, would successively deposit layers A-E, each of uniform thickness, resulting from the constant speed of the apparatus along each of the succeeding paths. None of the paths would have the deposited material sloping

in the direction between the beginning and ending ends of the paths as is required in claims 1 and 15.

It is respectfully submitted that Hunter, Jr. '766 does not disclose a method or apparatus by which foamed plastic material is deposited on an underlying surface for the deposited material to slope uniformly relative to the surface along at least a portion of the path in the direction between the beginning and ending ends of the path. Accordingly, it is further respectfully submitted that appellant's independent claims 1 and 15 are patentable under 35 U.S.C. § 102(b) over Hunter, Jr. '766, together with claims 2-14 which are dependant from claim 1 and claims 16-29 which are dependent from claim 15. Therefore, the examiner's decision finally rejecting these claims should be reversed.

Appellant considers dependent claims 3, 8 and 14 to be separately patentable from claim 1 from which they depend.

Claims 3 and 8 add to claim 1 that appellant's moving means includes a variable speed drive motor and that the control means includes means for progressively changing the speed of the drive motor during movement of the support means along said portion of the path and which movement according to claim 1 is between the beginning and ending ends of the path. The speed of the drive motor in Hunter, Jr. '766 is not changed during movement of his apparatus from the beginning end to the ending end of the path of movement. It is respectfully submitted that this feature provides versatility to appellant's apparatus by which many sloping profiles can be laid, including those shown in Figures 6-9 and, therefore, provides patentable distinction from parent claim 1.

Claim 14 adds to claim 1 that appellant's moving means includes a variable speed drive motor and that the control means includes means for selectively, progressively increasing,

progressively decreasing, and maintaining a uniform speed for the drive motor during movement of the support means along the path and which movement, in accordance with claim 1 is between the beginning and ending ends of the path. Again, Hunter, Jr. '766 does not disclose this feature, and it is respectfully submitted that the latter provides patentable distinction from parent claim 1 for the same reason set forth with regard to claims 3 and 8.

Appellant considers dependent claim 18 to be separately patentable from claim 15 from which it depends.

Method claim 18 adds to parent claim 15 the step of selectively controlling the depositing of the material for the latter to either progressively increase or decrease in thickness from the starting end of the path to a location between the starting end and the stopping end of the path and to be deposited from the location to the stopping end at the other of the increasing or decreasing thickness. This advantageously enables laying the material in the profiles of Figures 7 and 8 of the application drawing, selectively and in a single depositing operation, thus making the operation efficient and cost effective. This step is not disclosed in Hunter, Jr. '766 and provides patentable distinction from parent claim 15.

For the foregoing reasons, it is respectfully submitted that claims 3, 8, 14, and 18 further patentably distinguish under 35 U.S.C. § 102(b) over Hunter, Jr., '766.

#### **Summary and Conclusion**


The claims on appeal are directed to an apparatus and method for depositing a layer of foamed plastic material on an underlying roof surface along a path having a beginning end and an ending end. The apparatus claims are limited to controlling movement of the material depositing means along the path for a layer of material deposited to slope uniformly relative to the roof surface

along at least a portion of the path between the beginning and ending ends of the path. Appellant's method is limited to controlling the depositing of the material for the deposited material to slope uniformly relative to the roof surface along at least a portion of the path between the beginning and ending ends of the path. The limitation with respect to a uniform slope of the deposited material in the direction between the beginning and ending ends of the path of deposit is not disclosed in Hunter, Jr. '766. To the contrary, material deposited along a path of movement of the apparatus in the latter is of uniform thickness along the entire path between the beginning and ending ends thereof.

It is respectfully submitted, therefore, that the claims on appeal patentably distinguish under 35 U.S.C. § 102(b) from Hunter, Jr. '766 relied upon by the examiner in the final rejection. Accordingly, reversal of the examiner's decision finally rejecting claims 1-29, and a finding of patentability with respect to these claims is in order and is respectfully requested.

Respectfully submitted,

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**Appendix of Claims**

1. In apparatus comprising depositing means for depositing a layer of foamed plastic material on an underlying roof surface along a path having a beginning end and an ending end, support means for supporting said depositing means for movement on said underlying surface along said path, moving means for moving said support means along said path, and control means for controlling said moving means, the improvement comprising: said control means including means controlling said moving means for varying the rate of movement of said support means along said path for a layer of foamed plastic material deposited on said underlying surface to slope uniformly relative thereto along at least a portion of said path between said beginning end and said ending end.
2. Apparatus according to claim 1, wherein said moving means includes an electric drive motor.
3. Apparatus according to claim 1, wherein said moving means includes a variable speed drive motor and said control means includes means for progressively changing the speed of said motor during movement of said support means along said portion of said path.
4. Apparatus according to claim 3, wherein said means for progressively changing the speed of said motor progressively increases the speed thereof.
5. Apparatus according to claim 3, wherein said means for progressively changing the speed of said motor progressively decreases the speed thereof.

6. Apparatus according to claim 3, wherein said means for progressively changing the speed of said motor includes means for, selectively, progressively increasing and progressively decreasing the speed thereof.

7. Apparatus according to claim 1, wherein said support means includes a plurality of wheels and said moving means includes an electric motor for driving at least one of said wheels.

8. Apparatus according to claim 7, wherein said moving means includes a variable speed drive motor and said control means includes means for progressively changing the speed of said motor during movement of said support means along said portion of said path.

9. Apparatus according to claim 8, wherein said means for progressively changing the speed of said motor includes means for, selectively, progressively increasing and progressively decreasing the speed thereof.

10. Apparatus according to claim 8, wherein said means for progressively changing the speed of said motor progressively increases the speed thereof.

11. Apparatus according to claim 8, wherein said means for progressively changing the speed of said motor progressively decreases the speed thereof.

12. Apparatus according to claim 8, wherein said depositing means includes a foam material dispenser and means for displacing said dispenser relative to said support means in laterally opposite directions relative to said path.

13. Apparatus according to claim 12, wherein said means for progressively changing the speed of said motor includes means for, selectively, progressively increasing and progressively decreasing the speed thereof.

14. Apparatus according to claim 1, wherein said moving means includes a variable speed drive motor and said control means includes means for, selectively, progressively increasing, progressively decreasing, and maintaining a uniform speed for said motor during movement of said support means along said path.

15. A method of applying a layer of foamed plastic material on an underlying roof surface along a path having a beginning end and an ending end, comprising depositing foamed plastic material on said surface in the direction from said beginning end toward said ending end, and controlling the depositing of material for the deposited material to slope uniformly relative to said surface along at least a portion of said path between said beginning end and said ending end.

16. The method according to claim 15, and controlling the depositing for said material to progressively increase in thickness relative to said surface along said portion of said path.

17. The method according to claim 15, and controlling the depositing for said material to progressively decrease in thickness relative to said surface along said portion of said path.

18. The method according to claim 15, wherein said portion of said path has a starting end and a stopping end, and controlling the depositing for said material, selectively, to one of progressively increase in thickness and progressively decrease in thickness from said starting end



to a location between said starting end and said stopping end and then to the other of progressively increase in thickness and progressively decrease in thickness from said location to said stopping end.

19. The method according to claim 18, and controlling the depositing for said material to progressively increase in thickness from said starting end to said location.

20. The method according to claim 18, and controlling the depositing for said material to progressively decrease in thickness from said starting end to said location.

21. The method according to claim 15, and controlling the depositing of material for the material to have a uniform thickness relative to said surface along another portion of said path.

22. The method according to claim 15, including the further steps of providing a spray applicator for said foamed plastic material, moving said spray applicator along said path in the direction from said beginning end toward said ending end, and reciprocating said applicator in laterally opposite directions relative to said path during said moving.

23. The method according to claim 22, wherein said spray applicator is on a wheeled support including a variable speed motor for moving the support along said path, and varying the speed of said motor during movement of said support along said portion of said path.

24. The method according to claim 23, and, selectively, one of increasing and decreasing the speed of the motor during movement of said support along said portion of said path.

25. The method according to claim 24, and the other of increasing and decreasing the speed of the motor during movement of said support along another portion of said path.

26. The method according to claim 25, and maintaining a uniform speed of said motor during movement of said support along a further portion of said path.

27. The method according to claim 23, wherein said portion of said path is a first portion, and maintaining a uniform speed of said motor during movement of said support along a second portion of said path.

28. The method according to claim 27, and varying the speed of said motor during movement of said support along a third portion of said path.

29. The method according to claim 15, wherein said portion of said path has a starting end and a stopping end, and controlling the depositing for said material, selectively, to one of progressively increase in thickness, progressively decrease in thickness, and be of uniform thickness from said starting end to said stopping end.